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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,727	07/19/2002	Peter Knoll	10191/2289	4483
26646 7590 04/24/2007 KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004			EXAMINER SEVER, ANDREW T	
			ART UNIT	PAPER NUMBER
			2851	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/24/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/088,727

Applicant(s)

KNOLL ET AL.

Examiner

Andrew T. Sever

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-22, 24-39 and 41-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16, 24-31, 33-39 and 41 is/are allowed.
- 6) ☒ Claim(s) 17-22, 32 and 43-45 is/are rejected.
- 7) ☒ Claim(s) 42 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3/2002.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 18 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 18 claims the apparatus according to claim 19, but only adds the wherein clause that has been already added to claim 19, thus claim 18 claims essentially the same thing as claim 19 and therefore fails to further limit the subject matter of claim 19 of which it is dependent upon.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

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the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 18-22 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yazaki Corporation (GB 2 269 681 A as cited in the previous office action) in view of Kleinschmidt (US 6,750,832 as cited in previous office actions.)

With regards to applicant's claims 18 and 19:

Yazaki teaches in figure 3 a display apparatus in a vehicle, comprising:

A projection unit (20) arranged at least one of on a vehicle roof (5) and on an inside mirror of the vehicle; and

A display surface (30), which is outside the projection unit, onto which a real image is generated by the projection unit (See page 12, second full paragraph which states that a real image is formed on the diffusion board. 30);

Wherein the display surface is arranged on an instrument panel adjacent to a windshield (clearly the display surface (30) is next to the windshield (1) and on the instrument panel (2)),

Wherein a structural pattern is arranged on the display surface, and light is deflected by the structural pattern (part 30 is described as a diffusion board, which would inherently be some kind of diffraction surface that would have a structural pattern for example interference fringes see page 9 first paragraph of Yazaki.)

While it could be argued that the light when reflecting off the windshield (7) of Yazaki is deflected in the direction of a viewer, Yazaki does not literally teach that the light is transmitted directly into a direction of a user unless one considers the windshield part of the projection unit. Kleinschmidt teaches a similar display in a vehicle to that of Yazaki in figures 23 and 24 which comprises of a real display (DIF in figure 23) and a virtual head's up display wherein the image is made on the windshield. Unlike Yazaki which teaches only allowing a user to view the virtual image (See page 10 3rd paragraph of Yazaki) and providing means to block the view of the real image, Kleinschmidt teaches in column 15 lines 5-12 that by providing means for the driver to see either display the driver can have a choice of which display they prefer (real image display which is directly viewed or the virtual display which is indirectly viewed through the windshield), since as is known in the art virtual and real image each have separate advantageous in different driving conditions/environments. Accordingly since it is often useful to have a choice in what kind of display a driver can use; maximizing their comfort level and their safety for the particular ambient lighting conditions and the drivers own visual preferences, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the means as taught by Kleinschmidt to view the real image directly by the user by directly deflecting it by the display surface towards the user in the real image setting and by deflecting it towards the mirror in the virtual setting as taught by Kleinschmidt to improve the driving experience of one using such a device in a vehicle.

With regards to applicant's claim 20:

The windshield of Yazaki itself (1) can be considered a reflective surface arranged adjacent to the display surface (30).

With regards to applicant's claim 21:

The display surface (diffusion board 30) could be considered to have a roughening of the display surface (any surface that is capable of diffusing light (it would be obvious to one of ordinary skill in the art at the time of the invention that a surface called a diffusion board is capable of diffusing light) would be considered to have a roughening of it; its surface is not perfectly smooth.)

With regards to applicant's claim 22:

Yazaki in the embodiment of figure 3 that was described above with regards to applicant's claims 18 and 19 used a diffusion board rather than a holographically introduced structure on a display surface for a surface onto which a real image is generated. However Yazaki teaches in an alternative embodiment of figure 2 a version where the display surface is that of a non-regular reflection type hologram (see the bottom paragraph of page 8.) On the bottom paragraph of page 9, Yazaki teaches that this particular embodiment has the advantage that the display surface can be mounted anywhere on the instrument board and more consideration of the driver's specific sight can be taken into account. Accordingly it would have been obvious to one of ordinary

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skill in the art at the time the invention was made to use the holographic structure of the display surface, as it allows for some versatility in the specific disposition of the display surface.

With regards to applicant's claim 32:

The diffusion surface (30) of Yazaki inherently scatters light; this is how a diffusion surface functions to diffuse light (the individual photons of light scatter off the roughened surface of the diffusion surface.)

5. Claims 17, 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yazaki Corporation (GB 2 269 681 A as cited in the previous office action) in view of Hwang et al. (US 6,317,170 as cited in previous office actions.)

With regards to applicant's claims 43 and 45

Yazaki teaches in figure 3 a display apparatus in a vehicle, comprising:

A projection unit (20) arranged at least one of one a vehicle roof (5) and on an inside mirror of the vehicle; and

A display surface (30), which is outside the projection unit, onto which a real image is generated by the projection unit (see page 12, second full paragraph which states that a real image is formed on the diffusion board 30)

Yazaki, however does not necessarily teach that the projection unit (20) includes a laser-beam generating unit for generating the real image with laser beams. Hwang teaches in figure 3 a laser projector, which comprises 3 light sources (150) of different

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colors (red, green, and blue), which are combined and scanned by a means for scanning (900) and projected on a display surface (1000.) The light sources (150) comprises of laser diodes (see column 5 line 67), which is a laser beam generation unit. As shown in figure 1 and as is well known in the art, scanning means comprises of moving mirrors 80 and 70 which meet the limitation of a micromechanical mirror display as is claimed in applicant's claim 45. Hwang teaches in column 1 lines 19-35 that the prior art type projectors such as that of Yazaki have the limitation of requiring large amounts of power to generate a significantly bright image. Hwang further teaches that laser projectors overcome this limitation in column 1 lines 36-48. Since presumably the projector of Yazaki can be operated in both nighttime and daytime conditions (it would be much more useful if it can operate in both and accordingly one of ordinary skill in the art at the time the invention was made would expect it to be able to), the projector needs to be significantly brighter for daytime operations. Since it is desirable to use as little power as possible in a vehicle (as this decreases fuel efficiency and automotive electrical systems have limited capacity as compared to a home or theater), it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a laser projector as taught by Hwang for the prior art projector of Yazaki as it would allow for greater brightness with improved energy efficiency.

With regards to applicant's claim 17:

See figure 3 of Yazaki wherein the display surface (30) is clearly arranged on an instrument panel (2) adjacent to a windshield (1).

With regards to applicant's claim 44:

The diffusion surface (30) of Yazaki inherently scatters light; this is how a diffusion surface functions to diffuse light (the individual photons of light scatter off the roughened surface of the diffusion surface.)

Allowable Subject Matter

6. Claims 16, 24-31, 33-39, and 41 are allowed.
7. Claim 42 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. The following is a statement of reasons for the indication of allowable subject matter:

Claim 16 has been amended to include the limitation that the outer surface of the display surface has at least one of a prism structure and a saw-tooth structure. This was not found in the prior art in combination with all the other limitations of claim 16 either alone or in an obvious combination. Claims 24-30, 33-39, and 41 are dependent on claim 16 and are therefore allowed at least due to their dependency on claim 16.

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Claim 31 is allowable for the reasons given in the non-final rejection mailed on 11/20/2006.

Claim 42 is indicated as being objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, for the reasons given in the non-final rejection mailed on 11/20/2006.

Response to Arguments

9. Applicant's arguments with respect to claims 17-22, 32 and 43-45 have been considered but are moot in view of the new ground(s) of rejection.

10. Applicant amended claims 17, 18-22, 32, and 43-45 and accordingly the new grounds of rejection under 35 U.S.C. § 103(a) as being unpatentable over Yazaki Corporation in view of Kleinschmidt with respect to claims 18-22 and 32 and Yazaki Corporation in view of Hwang et al. with respect to claims 17 and 43-45 have been presented above. Accordingly applicant's argument's are moot.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

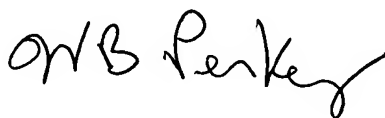
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "W B Perkey".

AS

William Perkey
Primary Examiner